



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,029	03/01/2002	Thomas J. Monica	BERLX-94	8803

23599 7590 07/29/2003

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

EXAMINER

BROWN, STACY S

ART UNIT PAPER NUMBER

1648

DATE MAILED: 07/29/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/085,029

Applicant(s)

MONICA ET AL.

Examiner

Stacy B Chen

Art Unit

1648

-- Th MAILING DATE of this c mmunication appears on the cover sheet with th c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1648

DETAILED ACTION

1. Applicant's election of Group I, claims 1-21 and 24-28 is acknowledged. Claims 1-21 and 24-28 are examined on the merits. Claims 22-23 are withdrawn from consideration, being drawn to non-elected subject matter. Applicant mainly traverses that there is no serious burden to examine the subject matter of claims 22-23. However, since claims 22-23 are product-by-process claims, the product is not necessarily patentable even though the process may be deemed patentable. Therefore, the restriction requirement is deemed proper and made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18, 20 and 22-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claims 1, 20, 24, 26, 27 and dependent claims 2-18, 22, 23, 25 and 28 are missing method steps. The preamble of the claims recites "method to release viruses from animal cells". However, the claims lack a correlation step which connects the processes of centrifugation/lysis and expanded bed chromatography with releasing viruses.
- Claims 2, 3, 18 and 25 are unclear in their recitation of "substantially lysed" and "predominantly lysed". The metes and bounds of these phrases are ambiguous and cannot be distinguished from each other.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 21 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kempken *et al* (*J. Indust. Micro.* 14:52-57, 1995). The claims are drawn to a method of preparing a cell lysate and preparing a biological molecule by centrifuging cells into a pellet and ejecting them into a receptacle. The cells are not treated any further with regard to lysis. All lysis is accomplished upon ejection.

Kempken discloses a method of continuous centrifugation with a Westfalia CSA-1 centrifuge at various speed from 4000-9000 rpm (table 1). Hybridoma cells expressing IgG were subjected to centrifugation and cells and IgG were collected. Upon centrifugation, some of the cells were lysed. Table 1 shows no cell viability with respect to feed at 8000-9000 rpm. No further treatment was applied to lyse the cells.

4. Claim 20 is rejected under 35 U.S.C. 102(b) as anticipated by Schoofs *et al* (*Cytotechnology* 28:81-89, 1998). The claims are drawn to a method of preparing a cell lysate by centrifuging cells into a pellet and ejecting them into a receptacle. Schoofs teaches a method of harvesting adenovirus by centrifuging cells into pellets. Ejection into a collection receptacle could be interpreted broadly to mean transfer to another centrifuge tube for further treatment.

Art Unit: 1648

Since claim 20 fails to disclose that additional steps are not taken to complete lysis, Schoofs anticipates the method.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kempken *et al* (*J. Indust. Micro.* 14:52-57, 1995) in view of Schoofs *et al* (*Cytotechnology* 28:81-89, 1998). The claims are drawn to a method of preparing viruses by centrifuging cells into a pellet and ejecting them into a receptacle. The cells are lysed to varying degrees. The virus can be recombinant adenovirus; the adenoviruses can be particles or infectious viruses. The method produces more yield than the freeze-thaw method of lysing cells. The cells can be insect or mammalian. The speed of centrifugation is between 6500-7000 rpm. The pelleted cells are ejected and lysed through an outlet; preferably the centrifuge is a Westfalia Centrifuge, Model CSA-1 or CSC-6.

Kempken's teachings are summarized above. Kempken fails to disclose the recovery of adenovirus from the cells. However, Schoofs, (teachings are summarized above) prepare adenoviruses from cell lysate in pellets. It would have been obvious to use the method of Kempken to recover the viruses of Schoofs. One would have been motivated to recover viruses because Kempken's method is for biologically active proteins in mammalian cell culture

Art Unit: 1648

systems. Kempken used a hybridoma cell expressing a protein as an example for their method. One of ordinary skill would have known that Kempken's method was generally for clarification of animal cell cultures that are used to produce proteins of interest. One would have had a reasonable expectation of success that Kempken's method would work with Schoof's viruses because adenoviruses are grown in large cultures and harvested, as evidenced by Schoof.

Regarding the limitations of the claims that are drawn to specifics of the centrifuge and degrees of lysis, one would have expected these outcomes since Kempken uses the same centrifuge as by Applicant. The method is a functional equivalent and therefore the results are expected. Further, regarding the limitation in claim 28, drawn to the expanded bed chromatography step, one of ordinary skill in the art would have been motivated to recover the virus using expanded bed chromatography because it is a well known and commonly used method of separation in the art of viral recovery.

Therefore the invention as a whole would have been prima facie obvious to one of ordinary skill in the art.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1648

Conclusion

7. No claim is allowed.

Papers relating to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 located in Crystal Mall 1. The Fax number for Art Unit 1648 is (703) 308-4426. All Group 1600 Fax machines will be available to receive transmissions 24 hrs/day, 7 days/wk. Please note that the faxing of such papers must conform with the Notice published in the Official Gazette, 1096 OG 30, (November 15, 1989).

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Stacy B. Chen, whose telephone number is (703) 308-2361. The Examiner can normally be reached on Monday through Friday from 6:30 AM-4:00 PM, (EST). If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, James C. Housel, can be reached at (703) 308-4027. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

SBC

Stacy B. Chen
July 18, 2003

James C. Housel
JAMES HOUSEL 7/28/03
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600